AIRWORK CORPORATION
Municipal Airport, Millville, New Jersey 08332 609/825-6000

November 8, 1984
EML 128/84

Mr. John Lewis
California Regional Water Quality
Control Board
Los Angeles Region
107 South Broadway, Room 4027
Los Angeles, California 90012-4596

Re: Pacific Airmotive Corporation
Suspected Subsurface Discharge
Aviation Jet Fuel

Dear Mr. Lewis,

As per our letter of October 29, 1984 we have received the four phased proposed work scope from Kennedy/Jenks Engineers, a copy of which is attached.

We have reviewed this proposal and find it acceptable and therefore submit it to you for approval.

Should you find this plan acceptable we are prepared to initiate immediate accomplishment of Phase I beginning Monday, November 19, 1984.

Very Truly Yours
AIRWORK CORPORATION

Christc
Vice Pr
Q.C. &

CHRISTOPHER M. ANDREW
Manager—Engineering
Quality Control & Facilities

AIRWORK
SERVICE
DIVISION

AIRWORK CORPORATION
Millville, NJ 08332 609/825-6C

mm
Attachment
cc: T. Kalinowski (Kennedy/Jenks)
B. Wettstein (P.A.C.)

AIRWORK CORPORATION
Municipal Airport, Millville, New Jersey 08332 609/825-6000

11/16

November 8, 1984
EML 128/84

Mr. John Lewis
California Regional Water Quality
Control Board
Los Angeles Region
107 South Broadway, Room 4027
Los Angeles, California 90012-4596

Re: Pacific Airmotive Corporation
Suspected Subsurface Discharge
Aviation Jet Fuel

Dear Mr. Lewis,

As per our letter of October 29, 1984 we have received the four phased proposed work scope from Kennedy/Jenks Engineers, a copy of which is attached.

We have reviewed this proposal and find it acceptable and therefore submit it to you for approval.

Should you find this plan acceptable we are prepared to initiate immediate accomplishment of Phase I beginning Monday, November 19, 1984.

Very Truly Yours
AIRWORK CORPORATION

Christopher M. Andrews
Vice President, Engineering
Q.C. & Facilities

mm
Attachment
cc: T. Kalinowski (Kennedy/Jenks)
B. Wettstein (P.A.C.)

Kennedy/Jenks Engineers

657 Howard Street
San Francisco, California 94105
415-362-6065

5 November 1984

Mr. Christopher M. Andrews
Manager-Engineering Quality
Control & Facilities
Airwork Corporation
Millville, NJ 08332

Subject: Proposal for Engineering Services for Site Contamination Asssessment, Pacific Airmotive Corporation, Burbank, California

Dear Mr. Andrews:

Kennedy/Jenks Engineers is pleased to offer this proposal to provide engineering services pursuant to your request during a site visit by Dr. Thomas Kalinowski of our firm on 29 October 1984. It is our understanding that Pacific Airmotive Corporation (PAC) requires assistance in assessing the presence and extent of soil contamination at your Burbank, California facility. Based on your description of the situation and information presented to Dr. Kalinowski during his site visit, it appears that a leakage of approximately 3,300 gallons of jet fuel may have occurred at your facility. Furthermore, it is suspected that the leak occurred in a pipeline located beneath or near the foundation slab for a pump station that supplies fuel to your engine test stands. The Regional Water Quality Control Board (RWQCB) has been notified of the incident, and they have in turn notified other interested agencies, including the County of Los Angeles, Department of Engineer-Facilities.

PROPOSED SCOPE OF WORK

We propose a phased approach to assist PAC in responding to the requirements of the RWQCB and the County of Los Angeles. The phases of work presently considered are as follows:

Phase I - Preliminary Contamination Assessment

Phase II - Detailed Contamination Assessment

Phase III - Conceptual Remedial Plan Development

Phase IV - Design of Remedial Action

This proposal presents in Attachment A a detailed scope of work for Phase I. The engineering services which can be provided by Kennedy/Jenks Engineers in subsequent phases, if required, are briefly summarized. We have found this phased approach to be cost-effective and to provide flexibility in meeting the needs of our clients. For example, if Phase I indicates no significant jet fuel contamination, work under Phase III for development of remedial actions to prevent further spreading of jet fuel could begin immediately, omitting Phase II.

Phase I - Preliminary Contamination Assessment

Our proposed Phase I investigations consist of sampling soil collected from excavation pits in the vicinity of the suspected leak. Coordinated laboratory and field analyses will be conducted to investigate the horizontal and vertical extent of fuel in the soil near the pump station. A detailed scope of work for this preliminary site assessment is presented in Attachment A to this proposal.

Phase II - Detailed Contamination Assessment

If Phase I results indicate significant spreading of jet fuel in soil, e.g., fuel is found in the deepest soils excavated, the RWQCB is likely to request further investigation to define the limits of contamination. The RWQCB may require a boring(s) placed alongside the pump station to a depth of 40 feet or more. If significant vertical penetration of fuel is found, a groundwater monitoring well may be required. However, if the presence of fuel appears to be restricted to shallow soils, additional excavation pits may be all that is required by the RWQCB to remove as much fuel contamination as is cost-effective.

Phase III - Conceptual Remedial Plan Development

On the basis of preliminary discussions with you and the RWQCB, and the results of work completed during Phases I and II, we would prepare a report describing the recommended conceptual remedial actions that would be taken in the area of the fuel pump station. The letter report would identify 1) procedures and limits for containment or removal of contaminated soil, as

feasible or necessary; 2) a soil sampling program to be implemented during excavation, if feasible, to ensure that contaminated soil is removed to the extent required; and 3) definition of the need, if any, for groundwater restoration if groundwater contamination becomes a consideration. This report, describing recommended conceptual remedial actions, would be provided to PAC for transmittal to the RWQCB and other appropriate regulatory agencies for review and concurrence.

Phase IV - Design of Remedial Actions

Working with PAC's management, Kennedy/Jenks Engineers can prepare plans and specifications for approved remedial measures. Remedial measures may include product recovery, soil excavation or containment, and surface drainage control in the area of the pump station to reduce jet fuel penetration to deeper soils.

PROJECT SCHEDULE

We are prepared to begin work on Phase I tasks immediately upon your authorization to proceed.

We understand that you are arranging for a contractor to excavate the pits described in Task 3 of our attachment. Upon receiving your authorization to proceed, we will begin preparation for conducting the proposed soil sampling program outlined for Phase I investigations. We anticipate two days onsite to complete this work. As we discussed, we will schedule our project engineer to visit the site on 19 November 1984 to confirm sampling locations with your management personnel prior to arrival of the excavation contractor on the following day.

CHARGES FOR ENGINEERING SERVICES

Inasmuch as the exact level of effort to complete the Proposed Scope of Work cannot be identified at this time, we propose that compensation for consulting services by Kennedy/Jenks Engineers be on a time and expense reimbursement basis in accordance with the attached Schedule of Charges dated 3 January 1984. On the basis of the Proposed Scope of Work, we propose a budget of $6,500 for Phase I, which will not be exceeded without

authorization from you. A breakdown of the estimated Phase I budget is as follows:

Task No.	Task Description	Estimated Level of Effort
1 & 2	Observation of Pit Excavations and Collection of Soil Samples from Excavation Pits	$ 1,700
3	Soil Sample/Organic Vapor Survey	600
4	Laboratory Analyses of Soil Samples	1,200
5	Engineering Analysis and Preparation of Phase I Report	3,000
	PHASE I TOTAL BUDGET	$ 6,500

A budget for subsequent phases of work, if needed, will be defined after Phase I investigations are completed.

To assure a clear understanding of all matters related to our mutual responsibilities, the attached Standard Conditions are made a part of our agreement. We have found these terms to be appropriate for use with agreements for the provision of engineering services, and accordingly, should any conflict exist between the attached terms and the form of any purchase order or confirmation issued, the terms of this proposal and the attached Standard Conditions shall prevail in the absence of our express written agreement.

If this proposal meets with your approval, please sign where noted below, and return a copy to our office to serve as our authorization.

If you have any questions on this proposal or wish to discuss these matters in greater detail, please do not hesitate to call.

Very truly yours,

KENNEDY/JENKS ENGINEERS, INC.

Theodore G. Erler
Vice President

TGE/sk
Attachments

AUTHORIZATION

Pacific Airmotive Corporation

By Christopher M Andrews

Title V.P. Engineering Q.C. & Facilities

Date Nov. 10-84

Kennedy/Jenks Engineers

Client/Address: Airwork Corporation
Millville, NJ 08332

Contract/Proposal Date: 5 November 1984

Schedule of Charges

January 3, 1984

Schedule of charges for work done on a time and expense reimbursable basis:

	Hourly Rate
Drafter	$ 38
Designer	48
Scientist-Engineer, Grade 3	55
Scientist-Engineer, Grade 2	65
Scientist-Engineer, Grade 1	75
Senior Scientist-Engineer	85
Department Head	100
Principals and Chief Engineer	125
Typist	35
Non-Technical	30
Laboratory Analyst	30

*Non-technical time will be charged only for preparation of technical reports and similar material and does not apply to routine administrative-type activities.

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work, will be based on actual cost plus ten percent for items such as:

a. Costs of maps, photographs, reproductions, printing, and special supplies related to the work.

b. Costs of consultants, soils engineers or surveyors.

c. Costs of rented vehicles, local public transportation and taxis, and for authorized travel outside the Bay Area and subsistence in connection therewith.

d. Costs of long-distance telephone and telegraph charges.

e. Costs of special fees, insurance, permits, and licenses applicable to the work.

f. Computer processing and computation.

Reimbursement for owned automobiles used in connection with the work at the rate of twenty-eight cents ($0.28) per mile.

Rate for personnel for legal proceedings or as expert witnesses will be set for each assignment.

Laboratory analysis charges, per current rate schedule or special quotation.

The foregoing schedule of charges, together with the standard conditions on the reverse, are incorporated into the agreement for the services of the company.

Standard Conditions

Client and Consultant agree that the following provisions shall be a part of their agreement.

1. Invoices
Consultant will submit progress invoices to client monthly showing charges for different personnel and expense classifications and a final bill upon completion of the services. Each invoice is due on presentation and is past-due thirty (30) days from invoice date. Client agrees to pay a finance charge of one and one-half percent (1½%) per month, but not exceeding the maximum rate allowed by law, on past-due accounts. Should either party hereto bring suit in court to enforce any term of this agreement, it is agreed that the prevailing party shall be entitled to recover his costs, expenses and reasonable attorneys' fees.

2. Services by Client
Client will provide access to site of work, obtain all permits, provide all legal services in connection with the project, and provide environmental impact reports and energy assessments unless specifically included in scope of work. Client shall pay the costs of checking and inspection fees, zoning application fees, soils engineering fees, testing fees, surveying fees, and all other fees, permits, bond premiums, blueprints and reproductions, and all other charges not specifically covered by the terms of this agreement.

3. Ownership of Documents
All drawings, specifications, computer programs and reports are instruments of service and remain the property of the Consultant, are to be used only on the specific project covered by this agreement and are not to be reused for other projects without compensation to and approval of Consultant. No documents may be altered or modified except by Consultant.

4. Services During Construction
Any construction inspection or testing provided by Consultant is for the purpose of determining the contractor's compliance with the functional provisions of project specifications only. Consultant in no way guarantees or insures contractor's work nor assumes responsibility for methods or appliances used by contractor, for jobsite safety or for contractor's compliance with laws and regulations. Client agrees that in accordance with generally accepted construction practices, the construction contractor will be required to assume sole and complete responsibility for jobsite conditions during the course of construction of the project, including safety of all persons and property and that this responsibility shall be continuous and not be limited to normal working hours.

5. Cost Estimates
Any statements of cost furnished by Consultant are predicted costs and are based on professional opinions and judgement. Consultant cannot be held responsible for fluctuations in construction costs due to bidding conditions and other factors which could not be anticipated at the time of preparation of the particular estimate.

6. Warranty
The only warranty or guarantee made by Consultant in connection with the services performed under this agreement is that such services were performed with the care and skill ordinarily exercised by members of the profession practicing under similar conditions at the same time and in the same or similar locality. When the findings and recommendations of Consultant are based on information supplied by Client and others, such findings and recommendations are correct to the best of Consultant's knowledge and belief. No other warranty, express or implied, is made or intended by providing of consulting services or by furnishing oral or written reports of the findings made.

7. Limitation of Liability
Consultant's liability for damages, loss, or injury due to professional negligence, including those losses or injuries arising out of 1) radiation, nuclear reaction, or radioactive contamination; and/or 2) any release or escape of toxic substances, irritant, hazardous waste, pollutant, waste gases, liquids, or solid materials or other contaminant, will be limited to a sum not to exceed $50,000.00 or the Consultant's fee, whichever is greater.

Attachment to Kennedy/Jenks Engineers' letter proposal to Airwork Corporation dated 5 November 1984

ATTACHMENT A

SCOPE OF WORK FOR PRELIMINARY CONTAMINATION ASSESSMENT
PACIFIC AIRMOTIVE CORPORATION, BURBANK, CA

BACKGROUND AND GENERAL APPROACH

Based on preliminary information obtained by Dr. Thomas Kalinowski of Kennedy/Jenks Engineers during a site visit on 29 December 1984, it appears that a leakage of jet fuel may have occurred near a fuel pump station at your facility in Burbank, California. It is our understanding that Pacific Airmotive Corporation (PAC) requires assistance in confirming and assessing the presence and extent of fuel in the soil at this site. We also understand that the Regional Water Quality Control Board (RWQCB) was notified on 16 October 1984 that a leakage of jet fuel at this site may have occurred, and that they in turn notified the County of Los Angeles, Department of County Engineer-Facilities.

A leakage of jet fuel was first suspected by PAC when a check of inventory records did not correlate with a shortage of fuel in a storage tank. Shallow soil excavation near the perimeter of a fuel pump station suggests that the leakage may have occurred in a pipeline that supplies jet fuel to engine test stands.

Kennedy/Jenks Engineers proposes to conduct a coordinated field and laboratory soil sampling program to confirm this suspected leakage of jet fuel, and to investigate the lateral and vertical extent of fuel in the soil.

Our general approach will be to collect soil samples from excavation pits in the vicinity of the fuel station and to conduct, in the field, organic vapor analyses. Soil samples from excavated areas would be brought back to the Kennedy/Jenks Engineers laboratory for analysis to confirm the field survey. This technique will allow several soil samples to be tested in the field, thereby increasing the likelihood of defining contaminant limits within the scope of planned excavation.

We propose to collect soil samples from 1) a trench excavated along the perimeter of the fuel pump station, and 2) excavation pits located at the ends of abandoned pipeline that are

potential candidates for lateral migration of jet fuel from the vicinity of the suspected leakage site.

PROPOSED SCOPE OF WORK

Task 1 - Observation of Pit Excavations

A Kennedy/Jenks Engineers field engineer will be present during pit excavations and will maintain field notes recording the location of visual indications of jet fuel contamination and areas where fuel odors are detected. The Kennedy/Jenks engineer will indicate approximate areas which may require additional excavation for the purpose of defining contamination limits (if fuel is found). Visual inspection of excavated soil and pit sidewalls, and organic vapor analysis of excavated soil, described in Task 3, will be used in making such determinations.

It is our understanding that direction of the contractor's work will be provided by responsible PAC personnel, who will be present at all times during excavation. PAC and the contractor will be responsible for site safety at all times. Kennedy/Jenks Engineers will be responsible only for the safety of its own employees. Location of underground utilities and conduits is the responsibility of PAC.

PAC personnel, being the generator of the waste, will be responsible for signing appropriate manifests for the transportation and disposal of the excavated material, and for contractural arrangements with and payments to the waste hauler and disposal facility. PAC will also arrange for excavated material to be stored temporarily onsite in suitable containers.

Task 2 - Collection of Soil Samples from Excavation Pits

We propose to collect soil samples from a trench that will be excavated along the perimeter of the fuel pump station. Based on the shallow excavation previously made in the vicinity, present plans call for the trench to be excavated in the shape of an "L", with a depth of eight to ten feet or until refusal.

Three locations in the trench will be selected to collect soil samples at three-foot deep intervals to investigate the vertical extent of fuel in the soil. Unless visual indications or the field organic vapor survey, described in Task 3, suggest alternate locations, the three soil sample locations will be at each end of the trench and in the middle.

Two sets of the soil removed from the trench at the desired depth will be collected from material placed on the sides of the trench. Out of safety considerations, no one will enter the

trench to collect samples. One set of samples will be surveyed in the field for the presence of organic vapors, as described in Task 3, and the other set will be returned to the Kennedy/Jenks Engineers laboratory for soil analyses as described in Task 4.

To the extent feasible, additional soil samples from the trench walls may be collected to help define contamination limits where warranted by visual inspection or organic vapor surveys.

Soil samples will also be collected from backfill material in excavation pits located at the ends of abandoned pipelines emanating from the vicinity of the pump station. An organic vapor survey will be conducted on this material and, if warranted, soil samples will be taken from the backfill material or other soil showing visual indications of fuel contamination.

Task 3 - Soil Sample Organic Vapor Survey

Soil samples will be surveyed in the field with an organic vapor analyzer to indicate the presence of jet fuel. This will be performed by placing the samples in glass jars and analyzing headspace for the presence of organic vapors. At a minimum, this will be done for soil samples collected 1) at three-foot depth intervals in the trench alongside the pump station, and 2) from excavated pipeline backfill material. Additional samples will be collected for organic vapor surveys as needed to aid in identifying limits of contamination, if found.

Task 4 - Laboratory Analysis of Soil Samples

A total of 11 soil samples will be budgeted for chemical analysis in the laboratory to confirm the results of the organic vapor field survey. It is anticipated that nine samples will be from the excavated trench alongside the pump station, and two samples from excavated pipeline trenches. However, this sampling breakdown may be changed if warranted.

Soil samples collected from excavated material deposited alongside the trench or pit will be placed in glass jars and sealed with teflon sheets and caps; the caps will then be sealed with plastic tape. The samples will be labeled and placed in an ice chest for transport to the Kennedy/Jenks Engineers laboratory. Kennedy/Jenks Engineers personnel will complete chain of custody forms. One sample of jet fuel from the PAC storage tanks will also be collected for analysis.

Soil samples will be analyzed by a gas chromatography (GC) scan with a flame ionization detector (FID) using a jet fuel sample from the PAC storage tank as a standard. Hydrocarbon detection limits of 1 ppm (mg/kg) should be achievable using this method.

Laboratory analyses on four soil samples will be on an expedited 48-hour turnaround basis, and verbal results will be provided to PAC as soon as available. The remainder of the soil samples will be analyzed with a normal 10 working day turnaround.

Task 5 - Engineering Analysis and Preparation of Phase I Report

Upon completion of Tasks 1 through 4, we will prepare a letter report summarizing the results of the field and laboratory investigations including: a site map showing the location of excavation pits, areas where soil samples were collected, results of organic vapor field survey, and laboratory analysis reports. The report will present data interpretations and conclusions regarding the presence of soil contamination by jet fuel. Recommendations regarding the need for and scope of subsequent phases will be presented, if warranted. A representative of Kennedy/Jenks Engineers will be available to attend one meeting to discuss the Phase I report with PAC and interested regulatory agencies.

It should be emphasized that the field and laboratory testing program described above may not be adequate to define a detailed remedial action plan, particularly if fuel has spread significantly in areas surrounding the pump station slab foundation. If additional investigations are necessary, these will be identified in the Phase I report.